STEREO POWER AMPLIFIER

KAC-622

SERVICE MANUAL

KENWOOD

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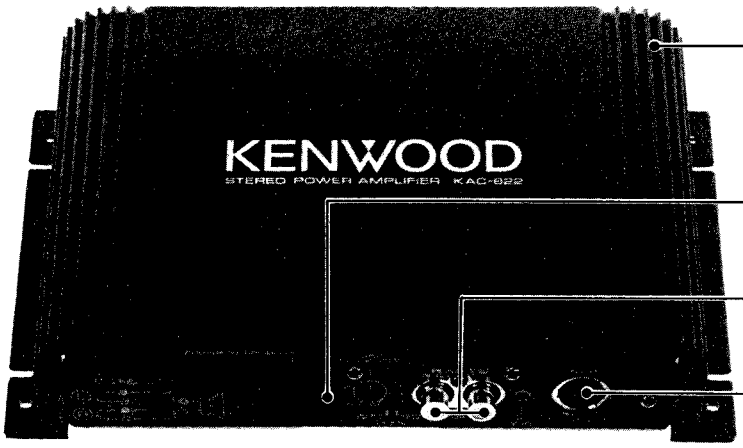
B51-6224-00 (T) 2982

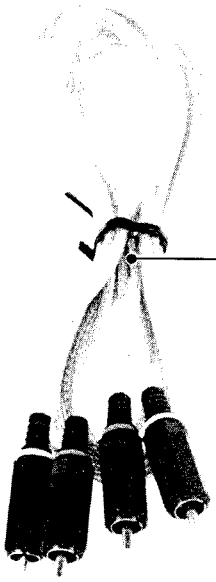


Heat sink
(F01-1358-02)

Rear panel
(A23-5026-03): T,E
(A23-5028-03): K

Phono jack
(E13-2205-05)

REC/PLAY jack
(E06-0816-05): only T,E type



Audio cord
(E30-3883-05): only T,E type

DC cord
(E30-3884-05): K
(E30-3885-05): T, E

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CONNECTIONS

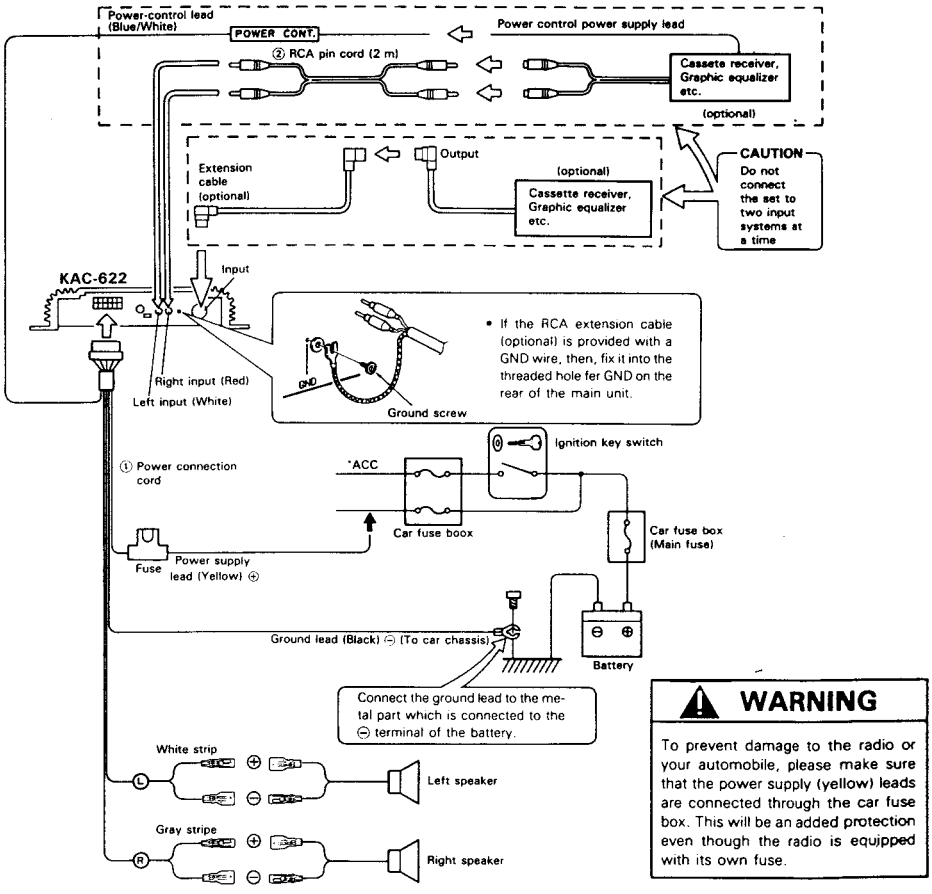
■ INSTALLATION

1. Before installation and wiring, remove the ⊖ terminal of the battery to prevent short-circuiting.
2. Connect the input and output cords of the system.
3. Connect the ground to the metal chassis of the car.
4. Connect the power supply lead (yellow).
5. Install the set and after confirming the installation and wirings are correct, connect the ⊖ terminal of the battery.

- If a fuse is blown, first check that the associated wires are not short-circuited then replace the fuse with a new one having the same capacity.

CAUTION

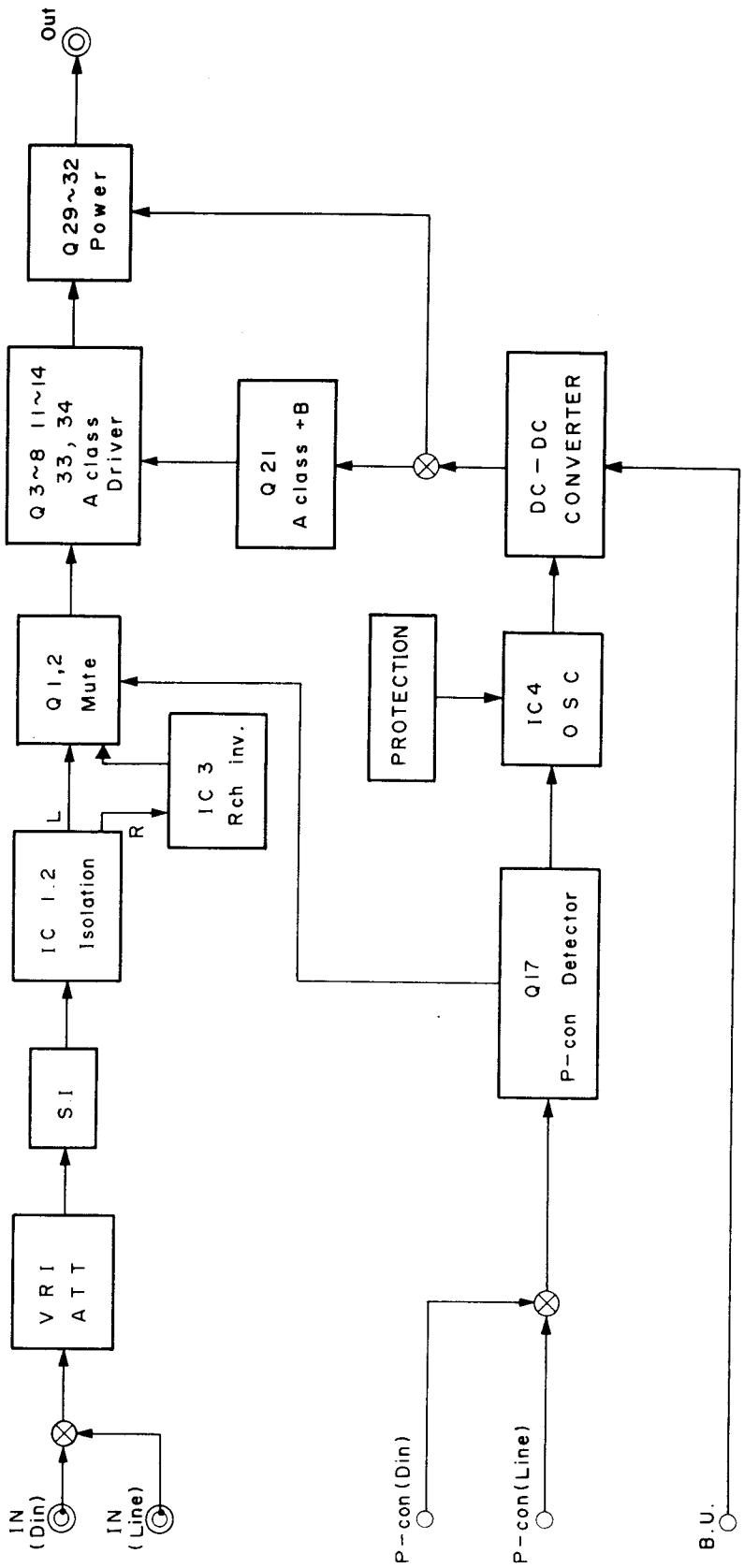
Always connect the without white stripe, gray stripe speaker wires to the ⊖ terminals of the speaker systems. Never let the ⊖ speaker wires touch and never connect them to the chassis (ground). Do not let the speaker terminals come into contact with the chassis (ground).
Insulate any unused output wire with vinyl tape to prevent a short circuit.


Power-control lead (Blue/White)
POWER CONT.
Power control power supply lead
② RCA pin cord (2 m)
Cassete receiver, Graphic equalizer etc.
(optional)
Extension cable (optional)
Output
(optional)
Cassette receiver, Graphic equalizer etc.
CAUTION
Do not connect the set to two input systems at a time
KAC-622
Input
Right input (Red)
Left input (White)
• If the RCA extension cable (optional) is provided with a GND wire, then, fix it into the threaded hole fer GND on the rear of the main unit.
Ground screw
Ignition key switch
① Power connection cord
*ACC
Car fuse boox
Car fuse box (Main fuse)
Fuse
Power supply lead (Yellow) ⊕
Ground lead (Black) ⊖ (To car chassis)
Battery
Connect the ground lead to the metal part which is connected to the ⊖ terminal of the battery.
White strip
Left speaker
Gray stripe
Right speaker

⚠ WARNING

To prevent damage to the radio or your automobile, please make sure that the power supply (yellow) leads are connected through the car fuse box. This will be an added protection even though the radio is equipped with its own fuse.

BLOCK DIAGRAM



CIRCUIT DESCRIPTION/ADJUSTMENT

CIRCUIT DESCRIPTION

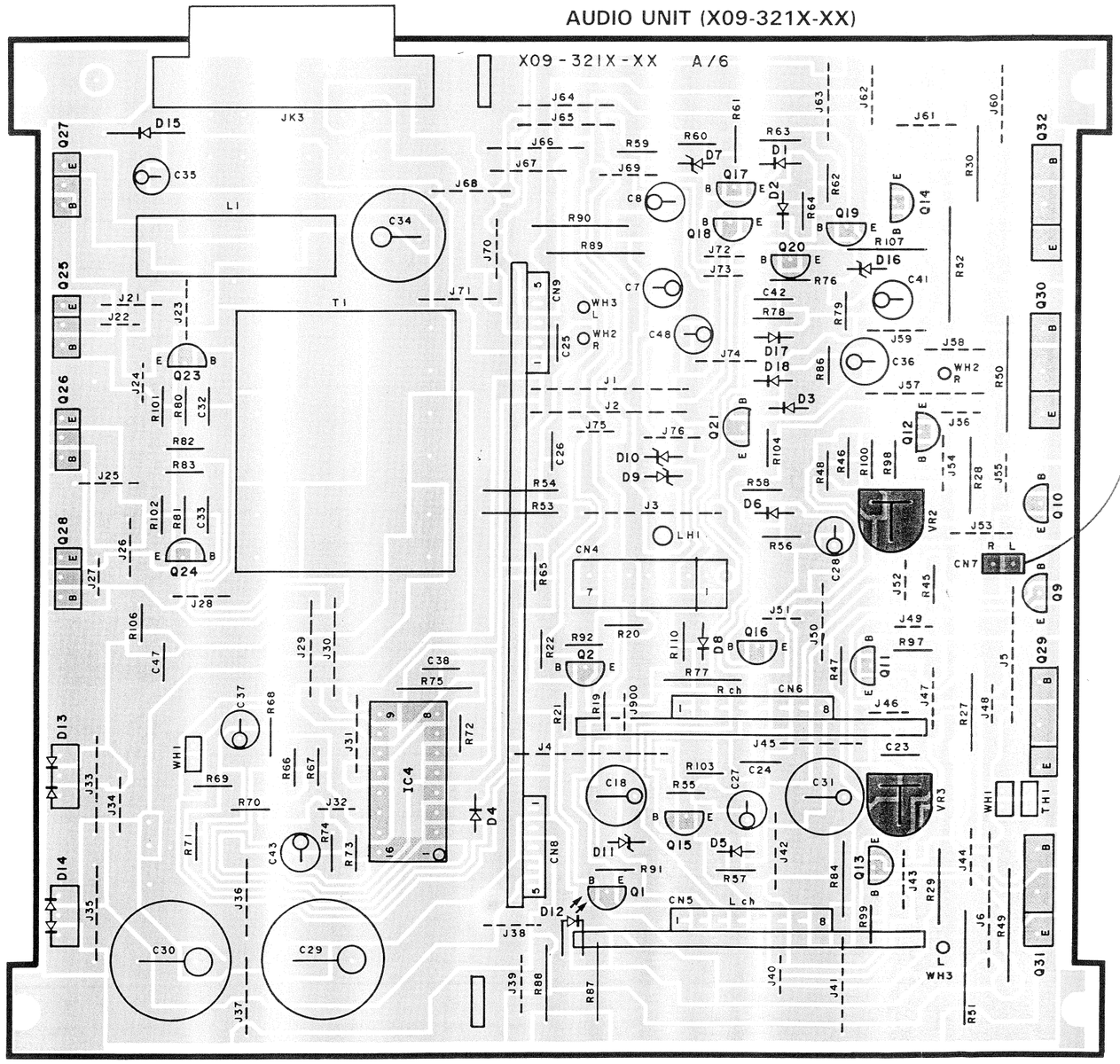
Component	Use/Function	Operation/Condition
Q1, 2	Mute	Mute operation at P-CON. ON/OFF.
Q3~6	Input differential amplifier	
Q7, 8	2nd-stage differential amplifier	
Q9, 10	Temperature compensation	
Q11~14	Power drive stage	
Q15, 16	Over current detector	ON when overcurrent flows at Q11-Q14.
Q17	P-con. detector	
Q18	Power switch	When Q17 turns ON, Q18 also turns ON to supply power to IC4.
Q19	Power switch	When Q17 turns ON, Q19 turns OFF so that Q12 turns ON.
Q20	Mute driver	ON for P-CON. ON/OFF.
Q21	A-class +B control	A-class section positive power ON/OFF switch.
Q23, 24	DC-DC driver	
Q25~28	DC-DC power	
Q29~32	Amplifier power stage	
Q33, 34	2nd-stage differential amplifier	
IC1	Input buffer	
IC2	Isolation	Isolation amplifier.
IC3	Inversion amplifier	R-ch inversion.
IC4	OSC	Fix the oscillation frequency of DC-DC converter, and detect the protection of overcurrent and temperature.

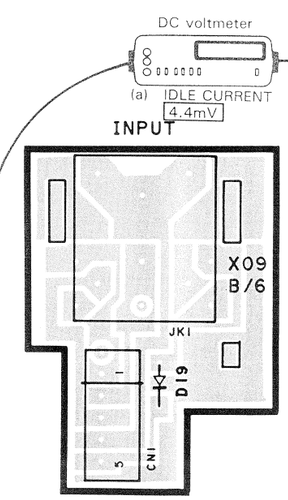
ADJUSTMENT

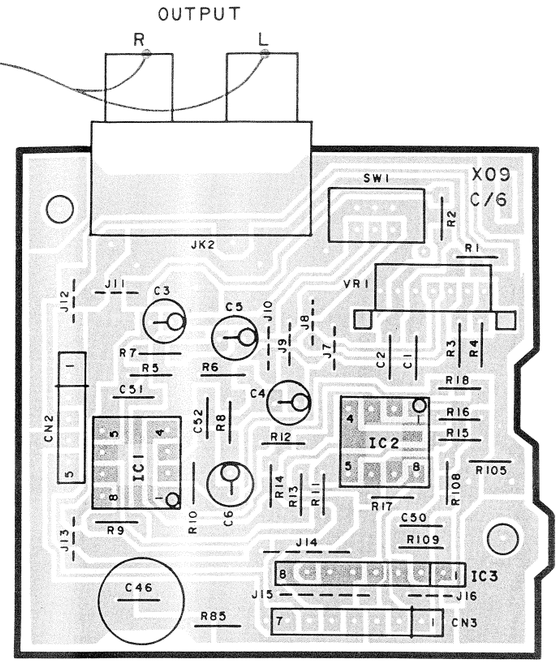
No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
Connect a cassette deck.							
1	IDLE CURRENT	–	Connect a DC voltmeter between CN7(L,R) and SP-OUT(L,R)	VOLUME: 0	VR2 (L) VR3 (R)	4.4mV	(a)

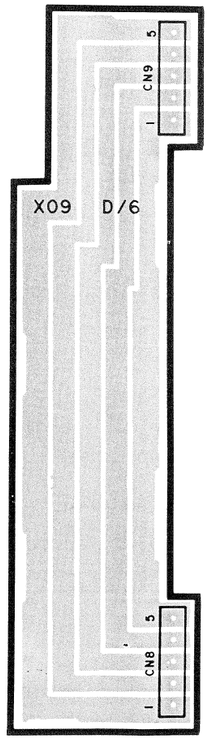
KAC-622(K)

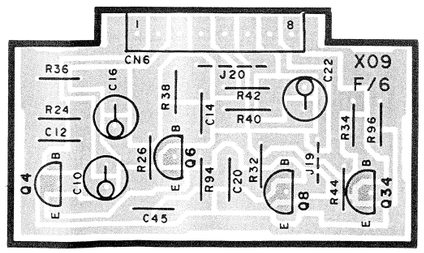
PC BOARD (Component side view)

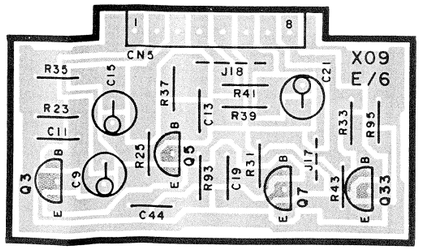






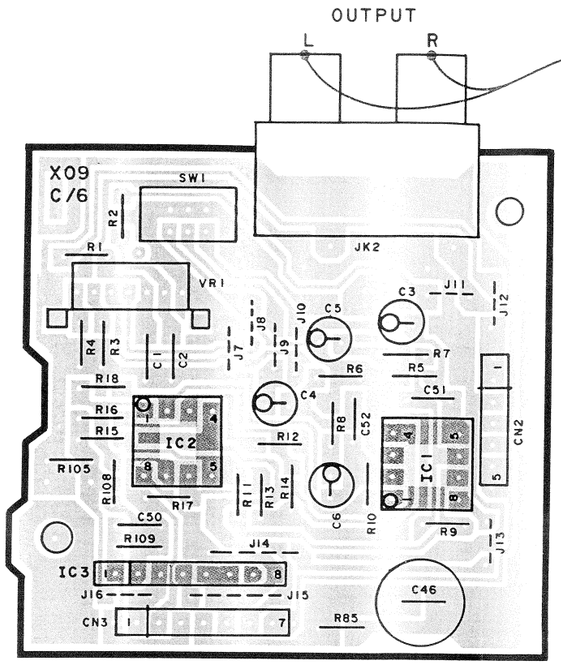


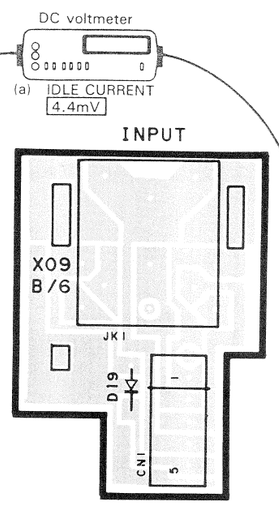


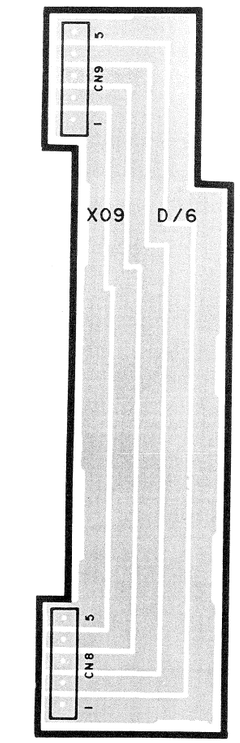


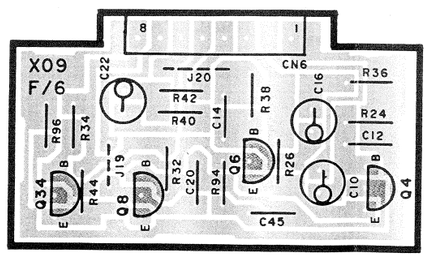
Refer to the schematic diagram for the values of resistors and capacitors.

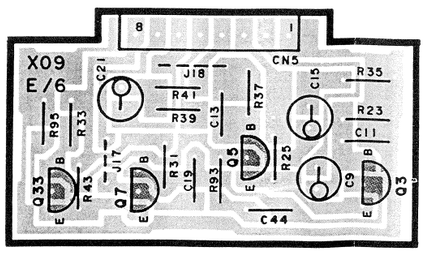
PC BOARD (Foil side view)

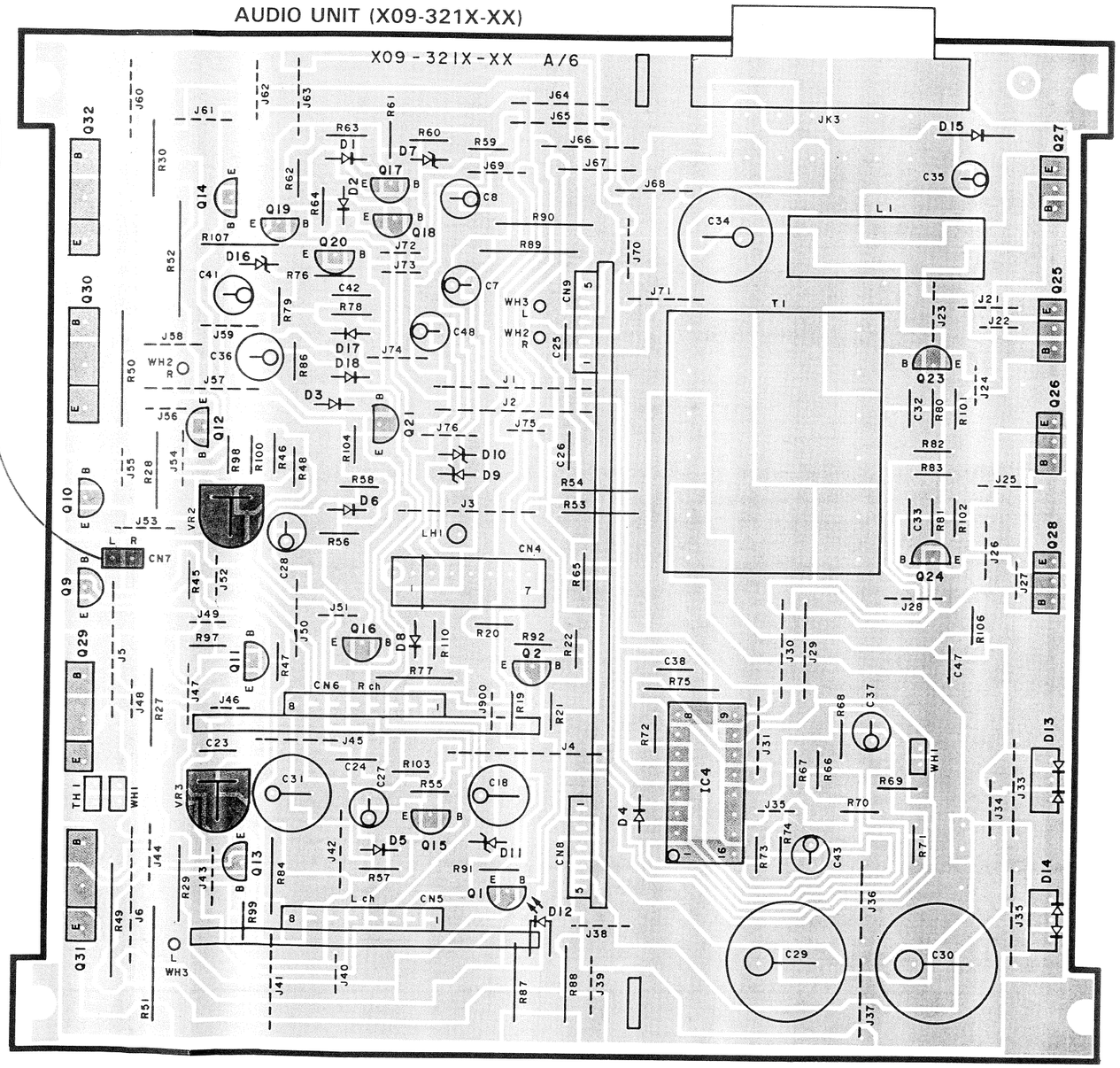




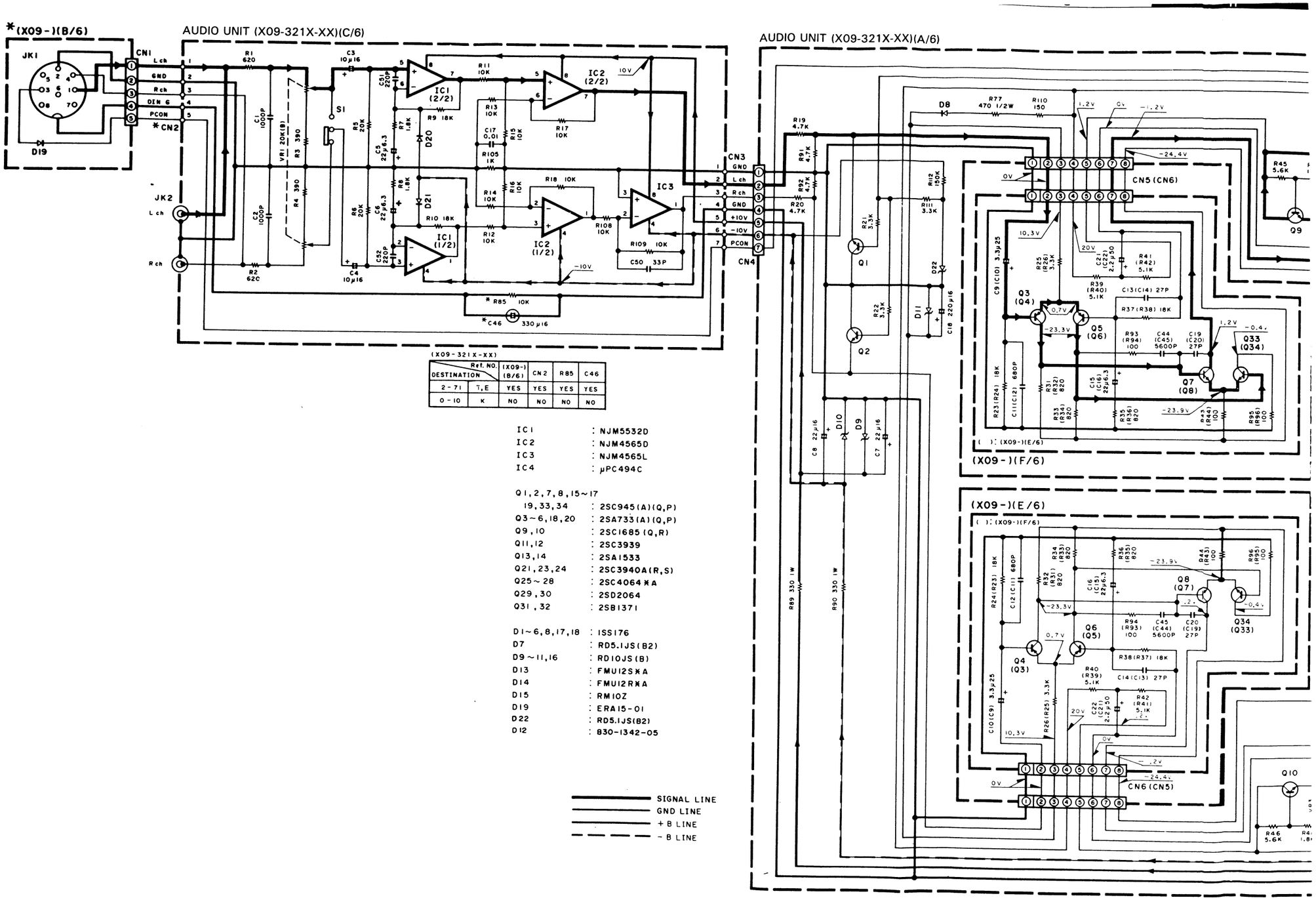








Refer to the schematic diagram for the values of resistors and capacitors.



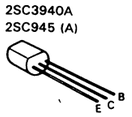
(X09-321X-XX)

DESTINATION \ Ref. NO.		(X09-)(B/6)	CN2	R85	C46
2-71	T,E	YES	YES	YES	YES
0-10	K	NO	NO	NO	NO

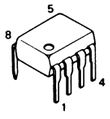
IC1	: NJM5532D
IC2	: NJM4565D
IC3	: NJM4565L
IC4	: μPC494C
Q1,2,7,8,15~17 19,33,34	: 2SC945(A)(Q,P)
Q3~6,18,20	: 2SA733(A)(Q,P)
Q9,10	: 2SC1685(Q,R)
Q11,12	: 2SC3939
Q13,14	: 2SA1533
Q21,23,24	: 2SC3940A(R,S)
Q25~28	: 2SC4064※A
Q29,30	: 2SD2064
Q31,32	: 2SB1371
D1~6,8,17,18	: 1SS176
D7	: RD5.1JS(B2)
D9~11,16	: RD10JS(B)
D13	: FMU12S※A
D14	: FMU12R※A
D15	: RM10Z
D19	: ERA15-01
D22	: RD5.1JS(B2)
D12	: B30-1342-05

SIGNAL LINE
GND LINE
+B LINE
-B LINE

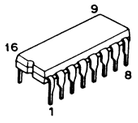
2SA733 (A)
2SC1685
2SC3940A
2SC945 (A)



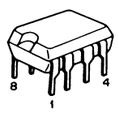
NJM5532D



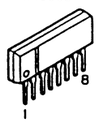
UPC494C



NJM4565D



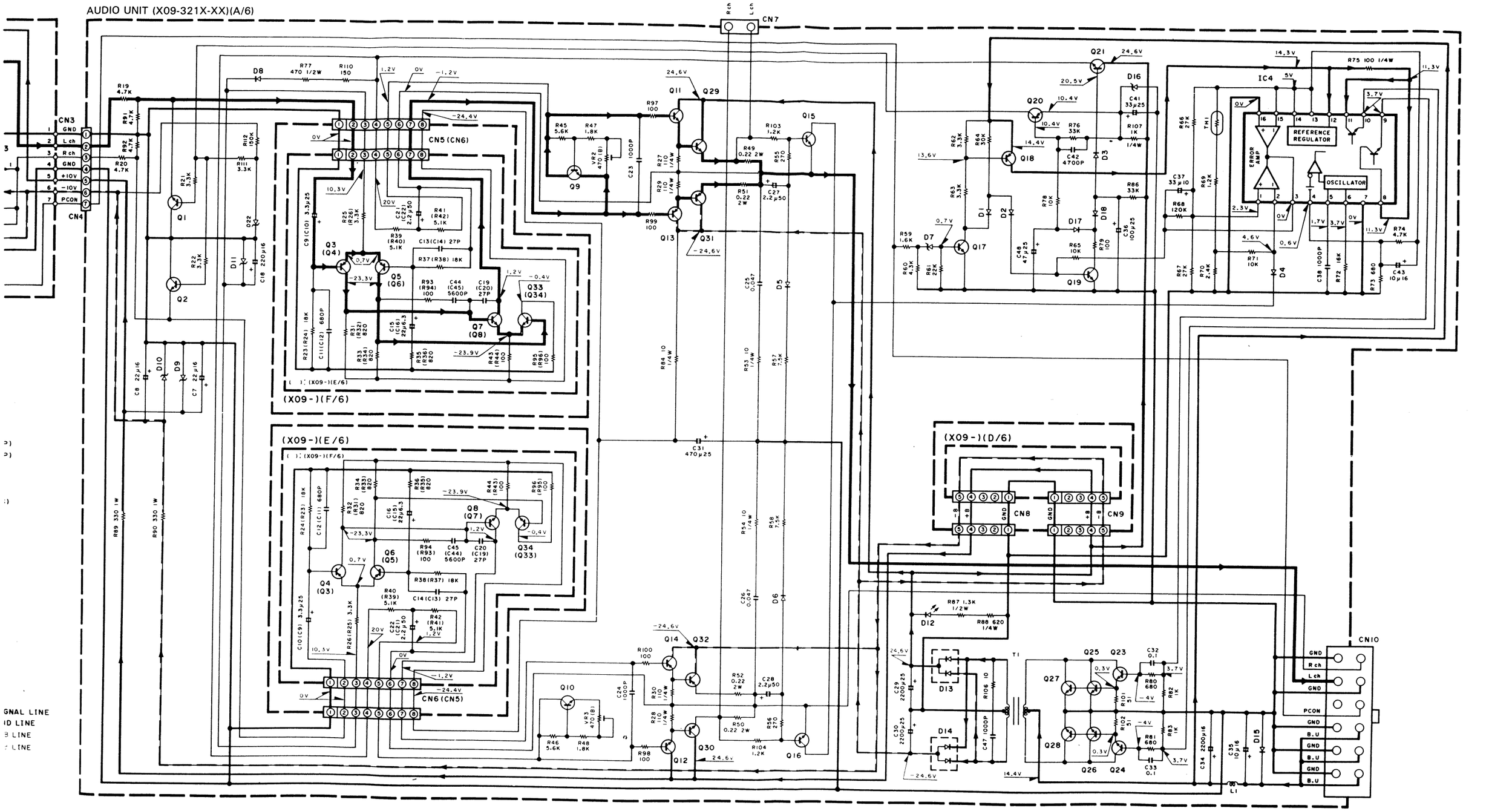
NJM4565L



DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent mètre à haute impédance valeurs peuvent différer lé tions inhérentes aux appa mesure individuels.

AUDIO UNIT (X09-321X-XX)(A/6)



KAC-622(K)

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanden die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

Y08-4250-10

KAC-622

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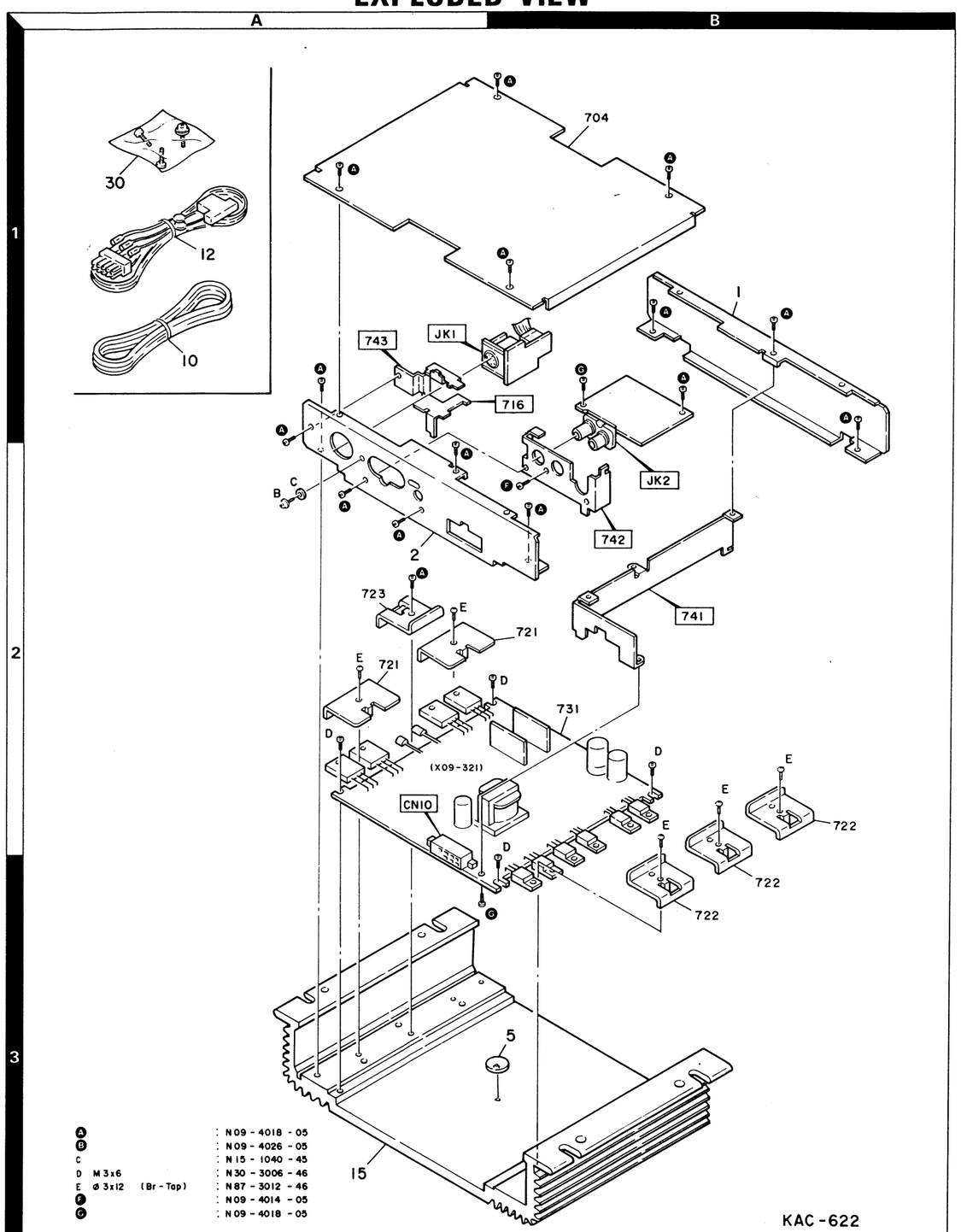
EXPLODED VIEW



PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
			KAC-622			
1	1B	*	A20-7588-03	PANEL		
2	2A	*	A23-5026-03	REAR PANEL	TE	
2	2A	*	A23-5028-03	REAR PANEL	K	
5	3B	*	B19-0850-04	LIGHTING BOARD		
-			B46-0100-20	WARRANTY CARD		
-		*	B64-0027-00	INSTRUCTION MANUAL	K	
-		*	B64-0028-00	INSTRUCTION MANUAL	TE	
10	1A	*	E30-3883-05	AUDIO CORD	TE	
12	1A	*	E30-3884-05	DC CORD	K	
12	1A	*	E30-3885-05	DC CORD	TE	
15	3A	*	F01-1358-02	HEAT SINK		
-		*	H01-9180-04	ITEM CARTON CASE		
-		*	H03-3217-04	OUTER CARTON CASE		
-		*	H10-4357-03	POLYSTYRENE FOAMED FIXTURE		
-			H25-0336-04	PROTECTION BAG (170X250X0.03)		
-			H25-0338-04	PROTECTION BAG (250X350X0.03)		
30	1A	*	N99-1557-05	SCREW SET	TE	
A	1A,2A		N09-4018-05	TAPPING SCREW (3X6,+ナベ)		
B	2A	*	N09-4026-05	TAPPING SCREW (4X8,TP,S)		
C	2A		N15-1040-45	FLAT WASHER (4マル)		
D	2A,2B		N30-3006-46	PAN HEAD MACHINE SCREW		
E	2A,2B		N87-3012-46	BRAZIER HEAD TAPTITE SCREW		
			AUDIO UNIT (X09-3210-10): K (X09-3212-71): T,E			
D12		*	B30-1342-05	LED		
C1 ,2			CK45FB1H102K	CERAMIC 1000PF K		
C3 ,4			CE04NW1C100M	ELECTRO 10UF 16WV		
C5 ,6			CE04NW0J220M	ELECTRO 22UF 6.3WV		
C7 ,8			CE04DW1C220M	ELECTRO 22UF 16WV		
C9 ,10			CE04DW1E3R3M	ELECTRO 3.3UF 25WV		
C11 ,12			CK45FB1H681K	CERAMIC 680PF K		
C13 ,14			CC45FSL1H270D	CERAMIC 27PF D		
C15 ,16			CE04DW0J221M	ELECTRO 220UF 6.3WV		
C17			CK45FF1H103Z	CERAMIC 0.010UF Z		
C18			CE04DW1C221M	ELECTRO 220UF 16WV		
C19 ,20			CC45FSL1H270J	CERAMIC 27PF J		
C21 ,22			CE04DW1H2R2M	ELECTRO 2.2UF 50WV		
C23 ,24			CF92FV1H102J	MF 1000PF J		
C25 ,26			CF92FV1H473J	MF 0.047UF J		
C27 ,28			CE04DW1H2R2M	ELECTRO 2.2UF 50WV		
C29 ,30		*	C90-2567-05	ELECTRO 2200UF 25WV		
C31			CE04DW1E471M	ELECTRO 470UF 25WV		
C32 ,33			CF92FV1H104J	MF 0.10UF J		
C34		*	C90-2566-05	ELECTRO 2200UF 16WV		
C35			CE04DW1C100M	ELECTRO 10UF 16WV		
C36			CE04DW1E101M	ELECTRO 100UF 25WV		
C37			CE04DW1A330M	ELECTRO 33UF 10WV		
C38			CF92FV1H102J	MF 1000PF J		
C41		*	CE04DW1E330M	ELECTRO 33UF 25WV		
C42			CF92FV1H472J	MF 4700PF J		
C43			CE04DW1C100M	ELECTRO 10UF 16WV		

E: Scandinavia & Europe K: USA P: Canada W:Europe
Y: PX(Far East, Hawaii) T: England M: Other Areas
Y: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

PARTS LIST

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2	2A	*	A23-5028-03	REAR PANEL	K	
5	3B	*	B19-0850-04	LIGHTING BOARD		
-			B46-0100-20	WARRANTY CARD		
-		*	B64-0027-00	INSTRUCTION MANUAL	K	
-		*	B64-0028-00	INSTRUCTION MANUAL	TE	
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-		*	H01-9180-04	ITEM CARTON CASE		
-		*	H03-3217-04	OUTER CARTON CASE		
-		*	H10-4357-03	POLYSTYRENE FOAMED FIXTURE		
-			H25-0336-04	PROTECTION BAG (170X250X0.03)		
-			H25-0338-04	PROTECTION BAG (250X350X0.03)		
30	1A	*	N99-1557-05	SCREW SET	TE	
A	1A,2A		N09-4018-05	TAPPING SCREW (3X6,ナベ)		
B	2A	*	N09-4026-05	TAPPING SCREW (4X8,TP,S)		
C	2A		N15-1040-45	FLAT WASHER (4マル)		
D	2A,2B		N30-3006-46	PAN HEAD MACHINE SCREW		
E	2A,2B		N87-3012-46	BRAZIER HEAD TAPTITE SCREW		
AUDIO UNIT (X09-3210-10): K (X09-3212-71): T,E						
D12		*	B30-1342-05	LED		
C1 ,2			CK45FB1H102K	CERAMIC 1000PF K		
C3 ,4			CE04NW1C100M	ELECTRO 10UF 16WV		
C5 ,6			CE04NW0J220M	ELECTRO 22UF 6.3WV		
C7 ,8			CE04DW1C220M	ELECTRO 22UF 16WV		
C9 ,10			CE04DW1E3R3M	ELECTRO 3.3UF 25WV		
C11 ,12			CK45FB1H681K	CERAMIC 680PF K		
C13 ,14			CC45FSL1H270D	CERAMIC 27PF D		
C15 ,16			CE04DW0J221M	ELECTRO 220UF 6.3WV		
C17			CK45FF1H103Z	CERAMIC 0.010UF Z		
C18			CE04DW1C221M	ELECTRO 220UF 16WV		
C19 ,20			CC45FSL1H270J	CERAMIC 27PF J		
C21 ,22			CE04DW1H2R2M	ELECTRO 2.2UF 50WV		
C23 ,24			CF92FV1H102J	MF 1000PF J		
C25 ,26			CF92FV1H473J	MF 0.047UF J		
C27 ,28			CE04DW1H2R2M	ELECTRO 2.2UF 50WV		
C29 ,30		*	C90-2567-05	ELECTRO 2200UF 25WV		
C31			CE04DW1E471M	ELECTRO 470UF 25WV		
C32 ,33			CF92FV1H104J	MF 0.10UF J		
C34		*	C90-2566-05	ELECTRO 2200UF 16WV		
C35			CE04DW1C100M	ELECTRO 10UF 16WV		
C36			CE04DW1E101M	ELECTRO 100UF 25WV		
C37			CE04DW1A330M	ELECTRO 33UF 10WV		
C38			CF92FV1H102J	MF 1000PF J		
C41		*	CE04DW1E330M	ELECTRO 33UF 25WV		
C42			CF92FV1H472J	MF 4700PF J		
C43			CE04DW1C100M	ELECTRO 10UF 16WV		

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Y: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

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PARTS LIST

※ New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C44 ,45			CF92FV1H562J	MF 5600PF J		
C46		*	C90-2576-05	ELECTRO 330UF 16WV	TE	
C47			CF92FV1H102J	MF 1000PF J		
C48			CE04DW1E220M	ELECTRO 22UF 25WV		
C50			CC45FSL1H680J	CERAMIC 68PF J		
C51 ,52			CC45FSL1H221J	CERAMIC 220PF J		
CN10	2A	*	E08-1211-05	RECTANGULAR RECEPTACLE		
JK1	1A		E06-0816-05	REC/PLAY JACK	TE	
JK2	2B	*	E13-2205-05	PHONO JACK (2P)		
LH1			J19-2826-05	HOLDER		
L1		*	L33-0932-05	LINE FILTER COIL		
T1		*	L19-0509-05	TRANSFORMER FOR CONVERTER		
F	2B		N09-4014-05	TAPTITE SCREW (3X8,ナベ)		
G	3B		N09-4018-05	TAPPING SCREW (3X6,+ナベ)		
R49 -52			RS14KB3DR22J	FL-PROOF RS 0.22 J 2W		
R77			RD14DB2H471J	SMALL-RD 470 J 1/2W		
R87		*	RD14DB2H132J	SMALL-RD 1.3K J 1/2W		
R89 ,90			RS14KB3A331J	FL-PROOF RS 330 J 1W		
VR1			R10-3631-05	POTENTIOMETER(20K)		
VR2 ,3			R12-0094-05	TRIMMING POT.(470 ﾌｾ)		
S1			S31-2075-05	SLIDE SWITCH		
D1 -6			1SS176	DIODE		
D7			RD5.1JS(B2)	ZENER DIODE		
D8			1SS176	DIODE		
D9 -11			RD10JS(B)	ZENER DIODE		
D13		*	FMU12S*A	DIODE		
D14		*	FMU12R*A	DIODE		
D15			RM10Z	DIODE		
D16			RD10JS(B)	ZENER DIODE		
D17 ,18			1SS176	DIODE		
D19			ERA15-01	DIODE	TE	
D22			RD5.1JS(B2)	ZENER DIODE		
IC1			NJM5532D	IC(OP AMP X2)		
IC2			NJM4565D	IC(OP AMP X2)		
IC3			NJM4565L	IC		
IC4			UPC494C	IC(SWITCHING REGULATOR)		
Q1 ,2			2SC945(A)(Q,P)	TRANSISTOR		
Q3 -6			2SA733(A)(Q,P)	TRANSISTOR		
Q7 ,8			2SC945(A)(Q,P)	TRANSISTOR		
Q9 ,10		*	2SC1685(Q,R)	TRANSISTOR		
Q11 ,12		*	2SC3939	TRANSISTOR		
Q13 ,14		*	2SA1533	TRANSISTOR		
Q15 -17			2SC945(A)(Q,P)	TRANSISTOR		
Q18			2SA733(A)(Q,P)	TRANSISTOR		
Q19			2SC945(A)(Q,P)	TRANSISTOR		
Q20			2SA733(A)(Q,P)	TRANSISTOR		
Q21			2SC3940A(R,S)	TRANSISTOR		
Q23 ,24			2SC3940A(R,S)	TRANSISTOR		
Q25 -28		*	2SC4064*A	TRANSISTOR		
Q29 ,30		*	2SD2064	TRANSISTOR		
Q31 ,32		*	2SB1371	TRANSISTOR		

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
Q33 ,34			2SC945(A)(Q,P)	TRANSISTOR		
TH1		*	PTH487A01BB222T	POSITIVE RESISTOR		

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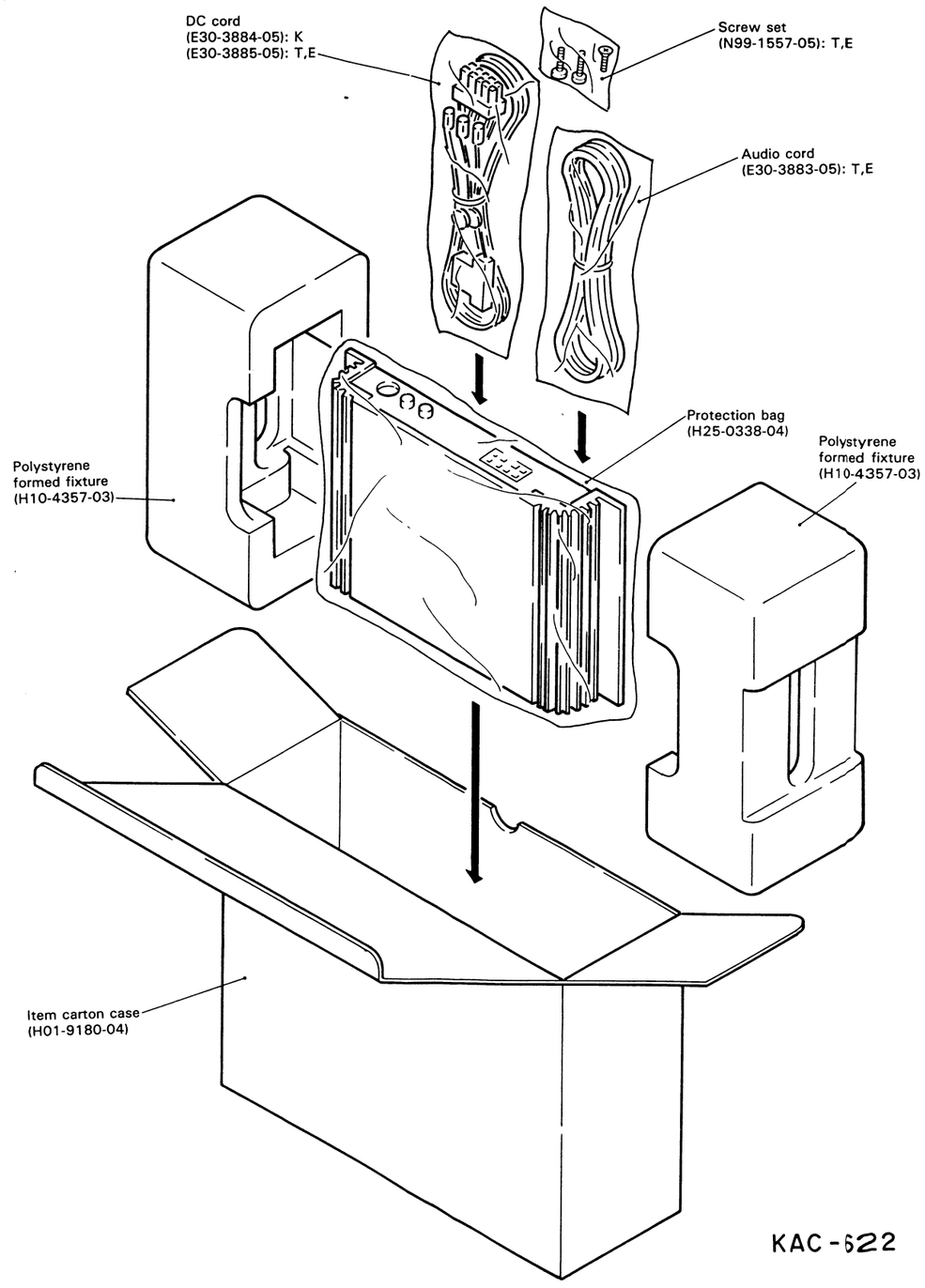
PACKING



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SPECIFICATIONS

Specifications subject to change without notice.

Audio section

Max Power Output
- STEREO (Normal) ..... 60 W + 60 W
- MONO (Bridged) ..... 130 W

Power Output
- STEREO (Normal) (20 Hz ~ 20 kHz, 4 Ω, less than 0.08% THD) ..... 30 W + 30 W
- MONO (Bridged) (1 kHz, 4 Ω, 0.8% THD) ..... 80 W

Output Power
- STEREO (Normal) (1 kHz, 2 Ω, 0.8% THD) ..... 40 W + 40 W

Frequency Response (−3 dB) ..... 4 Hz ~ 65 kHz
Signal to Noise Ratio ..... 100 dB
Sensitivity (rated output) MAX. ..... 0.1 V
MIN. ..... 5.0 V
Input Impedance ..... 10 kΩ
Damping Factor (100 Hz) ..... More than 100

General

Operating Voltage ..... 14.4 V (11 ~ 16 V allowable)
Current Consumption (MAX.) ..... 15 A
Dimensions (W × H × D) ..... 203 × 48 × 140 mm (8 × 1-7/8 × 5-1/2 in.)
Weight ..... 1.6 kg (3.5 lb)

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